



UNITED STATES PATENT AND TRADEMARK OFFICE

127

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,996	07/16/2003	Asela J. Gunawardana	M61.12-0502	8845
7590 02/09/2005			EXAMINER	
Theodore M. Magee Westman, Champlin & Kelly Suite 1600 900 Second Avenue South Minneapolis, MN 55402-3319			SIEK, VUTHE	
			ART UNIT	PAPER NUMBER
			2825	
DATE MAILED: 02/09/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/620,996

Applicant(s)

GUNAWARDANA, ASELA J.

Examiner

Vuthe Siek

Art Unit

2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☒ Claim(s) 27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/16/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to application 0/620,996 filed on 7/16/2003.

Claims 1-27 remain pending in the application.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a) because they fail to show "234" and "236" as described in the specification on page 11 lines 24-26. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claims 1-11 and 18-27 are objected to because of the following informalities: "changing the structure" lacks proper antecedent basis since the structure is not clearly defined; phrase "an optimized finite state machine" needed clarification as what it is referred to; a node in "placing the label in a node" needed clarification as what it is referred to, how different from "a node" recited earlier in the step of removing. As to claims 2 and 5, "adding the label from the node", both label and node need clarification what they are specifically referred to in order to avoid any confusion. As to claims 3-4, "the label" in appending the label needed clarification as what it is specifically referred to. As to claim 7, "wherein placing a label in a node comprises..." the step is confusing,

Art Unit: 2825

needed clearly defined. As to claims 8-9, the steps are confusing because one does not know what "a suffix" and "a prefix" as recited in the claims are referred to. As to claims 10-11, phrase "before placing the label..." it is not clear to what "the label" is referred to in the claim; "the prefixes" and "suffixes" needed clarification as what they are. As to claim 18, "the structure" is not clearly defined; in phrase "inserting labels on the nodes", the labels needed clarification what specific labels are referred to and which nodes are specifically referred to. Since numerous and unclear claimed language similarly to above claims, same above claim objections apply to claims 19-27. Corrections are requested.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-11 and 18-26 are rejected under 35 U.S.C. 102(a/e) as being anticipated by Yemini et al. (US 2002/0163889).

6. As to claim 1 and 18, Yemini et al. teach a network structure (finite state machine structure) comprising nodes and links to interconnect between nodes. The nodes and

Art Unit: 2825

links are labeled [at least in 0033, 0035, 0067, 0071]. Yemini et al. teach removing labels or deleting (a label from a node) in the network structure [0046, 0070]; changing the structure to form an optimized finite state machine or network structure [0037, 0059, 0044, 0045, 0067-0076, 0091]; placing the label in a node of the optimized finite state machine and inserting labels in the nodes (dynamic labeling, re-labeling of network structure, propagating labels or pass label from node to another [0036-0037, 0044-0046, 0067-0076].

7. As to claim 2, Yemini et al. teach adding the label from the node to a label for a link attached to the node before changing the structure of the finite state machine, where the adding comprising appending the label to the end of the label for the link if the link is an incoming link to the node, appending the label to the beginning of the label for the link if the link is an outgoing link from the node [0035-0037, 0067-0069].

8. As to claims 3-5 and 19-21, Yemini et al. teach node and link labels of a network structure. Yemeni et al. teach his present invention is accomplishes label assignment for a given node, X according to the following node path labeling algorithm. Examples are given in [0067, 0069, 0035-0038]. All nodes neighboring X pass their labels to X pre-pended by the link label connecting them, provided that the label does not already begin with that link label. For example, node H would pass its node label 2 to node G, pre-pended by the link label that it passes it's node label along (i.e., the link labeled 1). This results in node G being assigned a node label of "12". In another example, node H could merely pass it's node label 2 to node G, and node G could then pre-pending the label with the link label 1. These teachings would have anticipated the claimed

Art Unit: 2825

limitations of appending the label to end of the label for the link if the link is an incoming link to the node and appending the label to beginning of the label for the link if the link is an outgoing link to the node or adding the label from the node to the labels of each link that connects to the node because by appending the node label to the link label, this would allow each node to pass its label to another node through that link label.

9. As to claims 6 and 22-23, Yemini et al. teach removing or deleting the labels from each node in the network structure [0046, 0070, 0074, 0075].

10. As to claims 7-9 and 24-26, Yemini et al. removing the labels (removing a suffix of the label, prefix of the label) and storing the removed label in the node [0035-0037, 0065-0075]. Yemini et al. teach an example of removing a suffix [0074-0075]. Since Yemini et al. teach a node maintains a list of all labels its neighbors have sent to it. For each entry from a neighbor, a node may create a new label for itself, by pre-pending the received label to the beginning of the entry. Each label obtained in such manner may interpreted as a path to the root node. Thus this would suggest there are a relationship between node labels and link labels in order to maintain tracking or routing path (prefix and suffix).

11. As to claims 10-11, Yemini et al. teach when a node B using the same local root resolves an address, it will match the identifier of the local root R [0038]. Yemini et al. teach removing common suffix in order to combine the two node labels to yield a path label [0075]. This would suggest the same manner applying to prefixes by removing the common prefixes in order to combine the two node labels to yield a path label.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yemini et al. (US 2002/0163889) in view of Mohri et al. (6,243,679).

14. As to claims 12-13, Yemini et al. lack the teachings of performing a determination and minimization algorithms. Mohri et al. teach these limitations (Fig. 2B and its description) in order to obtain an optimal reduction of redundancy and size of a weighted and labeled graph. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Mohri et al. into Yemini et al. in order obtain an optimal reduction of network structure having node and link labeled thereby it would have saved storage space by eliminating redundancy and size the labeled network structure.

15. As to claims 14-15, Mohri et al. teach a finite state machine is a finite state transducer that is a weighted finite state transducer (Fig. 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied the finite state machine having network structure as taught by Yemini et al. in the finite state transducer and acceptor as taught by Mohri et al. in order to obtain an optimal reduction of network structure having node and link labeled thereby it would

Art Unit: 2825

have saved storage space by eliminating redundancy and size the labeled network structure.

16. Claims 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yemini et al. (US 2002/0163889) in view of Mohri et al. (US 2003/0120480).

17. As to claims 12-17, Mohri et al. teach performing a determination and minimization algorithms [0006], the finite state machine is a finite state transducer that is a weighted finite state transducer, and the finite state machine is a finite state acceptor that is a weighted finite state acceptor (see abstract, summary, [0062-0068]).

Therefore, it would have obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Yemini et al. and Mohri et al. in order to optimize the finite state machine data structure to thereby the defined topology can be changed dynamically as a given input string of symbols is being recognized [0024].

Allowable Subject Matter

18. Claim 27 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Although Yemini et al. label nodes and links of a network structure and removing labels and re-labeling the network structure, the reference does not suggest adding a label from a node to a label for a link by inserting a separator between the label from the node and the label for the link.

Art Unit: 2825

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vuthe Siek whose telephone number is (571) 272-1906. The examiner can normally be reached on Increase Flextime.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Smith can be reached on (571) 272-1907. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Vuthe Siek


VUTHE SIEK
PRIMARY EXAMINER